

ADDITIONAL

 **PIONEER®**
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Service Manual

ORDER NO.
ARP1400

FM/AM DIGITAL SYNTHESIZER TUNER

F-551

KUC, SD, HEZ

F-551-S

 HEZ

F-551L

 HE, HB

- For servicing these models, please refer to the F-X420L(BK) /HE type service manual (ARP1220) with the exception of this additional service manual.

MODELS F-551, F-551-S AND F-551L COMES IN FIVE VERSIONS DISTINGUISHED AS FOLLOWS:

| Type | Applicable model | | | | Power requirement | Export destination |
|------|------------------|-------|---------|--------|--|--|
| | F-X420L (BK) | F-551 | F-551-S | F-551L | | |
| KUC | — | ○ | — | — | AC120V only | U.S.A. and Canada |
| HE | ○ | — | — | ○ | AC220V, 240V ※ | European continent |
| HB | ○ | — | — | ○ | AC220V, 240V ※ | United Kingdom |
| HEZ | — | ○ | ○ | — | AC220V, 240V ※ | West Germany |
| SD | — | ○ | — | — | AC110V, 120V-127V, 220V, 240V (switchable) | Kingdom of Saudi Arabia and general market |

※ Change the primary wiring of the Complex assembly.

- The AM tuner of the F-551L/HE and HB types are a two wave-band tuner with MW (medium wave) and LW (long wave), but the F-551/KUC, SD, HEZ and F-551-S/HEZ types are MW only.
- This additional service manual is applicable to the F-551/KUC, SD, HEZ, F-551-S/HEZ, F-551L/HE and HB types.
- The F-551-S/HEZ type is the silver version of the F-551/HEZ type.
- Ce manuel pour le service comprend les explications en français de réglage.
- Este manual de servicio trata del método ajuste escrito en español.

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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks $\star\star$ and \star .
 $\star\star$ **GENERALLY MOVES FASTER THAN \star**
 This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts marked by "©" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

The F-551/KUC, SD, HEZ, F-551-S/HEZ, F-551L/HE and HB types are the same as the F-X420L(BK)/HE type with the exception of the following sections.

| Mark | Symbol & Description | Part No. | | | | | | | Remarks |
|--------------------|-------------------------------------|--------------------|------------|------------|------------|------------|------------|-----------------|-------------|
| | | F-X420L (BK)/HE | F-551/KUC | F-551/SD | F-551L/HE | F-551L/HB | F-551/HEZ | F-551-S/ HEZ | |
| | TUNER assembly | AWZ1154 | AWZ1417 | AWZ1418 | AWZ1424 | AWZ1424 | AWZ1427 | AWZ1427 | |
| | DISPLAY assembly | Non supply | Non supply | Non supply | Non supply | Non supply | Non supply | Non supply | |
| | FE assembly (FTZ) | ..... | ..... | ..... | ..... | ..... | AWB1003 | AWB1003 | |
| | Power knob (POWER) | AAD1055 | AAD1152 | AAD1152 | AAD1152 | AAD1152 | AAD1152 | AAD1157 | |
| | Display plate | AAK1126 | AAK1253 | AAK1253 | AAK1253 | AAK1253 | AAK1253 | AAK1253 | |
| Δ | AC power cord | ADG-071 | ADG-088 | ADG1015 | ADG1021 | ADG-063 | ADG-094 | ADG-094 | |
| $\Delta\star\star$ | Fuse (T400mA, FU301) | AEK-407 | ..... | ..... | AEK-407 | AEK-407 | AEK-407 | AEK-407 | |
| $\Delta\star\star$ | Fuse (T500mA, FU301) | ..... | AEK-136 | AEK-136 | ..... | ..... | ..... | ..... |  |
| | Leg assembly | AEP-320 | AEP-280 | AEP-280 | AEP-280 | AEP-280 | AEP-280 | AEC-903 | |
| | Front rear pad | AHA1025 | ..... | ..... | ..... | ..... | ..... | ..... | For packing |
| | Packing case | AHD1113 | AHD1227 | AHD1227 | AHD1226 | AHD1226 | AHD1227 | AHD1228 | For packing |
| | Front panel base | AMB1089 | AMB1180 | AMB1180 | AMB1180 | AMB1180 | AMB1180 | AMB1193 | |
| | Front panel | ANB1076 | ..... | ..... | ..... | ..... | ..... | ..... |  |
| | Front panel assembly | ..... | ANB1097 | ANB1097 | ANB1096 | ANB1096 | ANB1121 | ANB1098 | |
| | Bonnet | ANE-618 | ANE1052 | ANE1052 | ANE1052 | ANE1052 | ANE1060 | ANE1073 | |
| | Operating instructions (English) | ..... | ARB1061 | ARB1061 | ..... | ARB1061 | ..... | ..... |  |
| | (English/German/French /Italian) | ARE1024 | ..... | ..... | ARE1048 | ..... | ..... | ..... |  |
| | (German) | ..... | ..... | ..... | ..... | ..... | ARC1039 | ARC1039 | |
| | (Spanish) | ..... | ..... | ARC1055 | ..... | ..... | ..... | ..... |  |
| | Push rivet | ..... | AEP-319 | AEP-319 | AEP-319 | AEP-319 | AEP-319 | AEP-319 | |
| | Side pad | ..... | AHA-341 | AHA-341 | AHA-341 | AHA-341 | AHA-341 | AHA-341 | For packing |
| | Power joint | ..... | AMR1098 | AMR1098 | AMR1098 | AMR1098 | AMR1098 | AMR1098 | |
| | Connection cord with Mini plug | ..... | ADE-085 | ADE-085 | ..... | ..... | ..... | ..... |  |
| | FL filter | AAK1125 | AAK1125 | AAK1125 | AAK1144 | AAK1144 | AAK1144 | AAK1144 | |
| | FM antenna assembly | ..... | ..... | ..... | ..... | ..... | ADH1002 | ADH1002 | |
| | FM antenna | ADH-005 | ADH-005 | ADH-005 | ADH-005 | ADH-005 | ..... | ..... |  |

Note: The F-551-S/HEZ type is the silver color design type of the F-551/HEZ type.

Therefore, the F-551-S/HEZ type is the same circuit construction as the F-551/HEZ type.

2. ADJUSTMENTS

FM Tuner Section Adjustment

- Connect up as indicated in Fig.2-1.
- Press the FM key to set FM mode.
- CCTS switch OFF.
- Center the FM tuner section's trimmer and VR.

Note: Stereo modulation: Main 1kHz L+R $\pm 68.25\text{Hz}$ dev.
Pilot 19kHz $\pm 6.75\text{kHz}$ dev.

| Step No. | FM SG (1kHz $\pm 75\text{kHz}$ dev.) | | F-551 (F-551L, F-551-S) Frequency display | Adjustment | |
|----------|---|-----------|--|---------------------|---|
| | Frequency(MHz) | Level(dB) | | Adjustment location | Specifications |
| 1 *1 | No input signal | | 108.0MHz | L105 | Adjust so that TP4 is 10V($\pm 0.3\text{V}$). |
| 2 *1 | 98.0 | 20-30 | 98.0MHz | T101 | Set the output from TP2 of the tuner assembly to maximum level. |
| 3 | 98.0 | 60 | 98.0MHz | L109 | Adjust so that it become 0V between TP5 and TP6. |
| 4 | No input signal | | 98.0MHz | VR101 | Ground pin 6 of IC101 through a 220 μF capacitor and adjust so that TP7 is 19kHz($\pm 50\text{Hz}$). |
| 5 | 98.0 | 60 | 98.0MHz | T101 | Minimize distortion in both left and right channel outputs (adjust T101 to within $\pm 90^\circ$). |
| | Stereo modulation (note) | | | | |

* 1 : For the F-551/HEZ type and F-551-S/HEZ type, proceed as shown in the chart below instead of using steps 1 and 2 in the chart above. Refer to Figs.2-4 and 2-5 for the adjustment locations.

| | | | | | | |
|---|---|--|-------|----------|---------------------|---|
| 1 | ① | 90.0 | 20-30 | 90.0MHz | L702 *2, L703, T701 | Set the output from TP2 of the tuner assembly to maximum level. (S.meter) |
| | ② | 106.0 | | 106.0MHz | TC701, L703, T701 | |
| | ③ | 90.0 | | 90.0MHz | L702 *2 | |
| | ④ | 98.0 | | 98.0MHz | T702 | |
| | ⑤ | Repeat steps 1-② and 1-③ until both specification ratings are met. | | | | |

* 2 : The expression "adjust L702" found in the text means that the tuning coil is to be extended outwards with spatula (non metal) as shown in Fig.2-5.

AM (MW) Tuner Section Adjustment

- Connect up as indicated in Fig.2-2.
- Press the AM (MW) key to set AM (MW) mode.
- For the F-551/KUC type and SD type, set the FM/AM CHANNEL STEP switch (S801) to 100/10kHz. For all other types, set this switch to 50/9kHz. (Always turn off the power when making these settings.)
The value within brackets () in the section of adjustment method is the value when S801 is 100/10kHz.
- CCTS switch OFF.
- Center the MW tuner section's trimmer and VR.

| Step No. | AM SG (400Hz, 30% modulation) | | F-551 (F-551L, F-551-S) Frequency display | Adjustment | |
|----------|--|-----------|--|---------------------|---|
| | Frequency(kHz) | Level(dB) | | Adjustment location | Specifications |
| 1 | No input signal | | 531kHz (530kHz) | L201 | Set TP4 of tuner assembly to 1.3V(±0.1V). |
| 2 | | | 1602kHz (1700kHz) | TC202 | Set TP4 of tuner assembly to 10.0V (±0.3V). |
| 3 | Repeat steps 1 and 2 until both specification ratings are satisfied. | | | | |
| 4 | 603 (600) | 40 | 603kHz (600kHz) | T201 | Set the output from TP2 of the tuner assembly to maximum level. |
| 5 | 1395 (1400) | 40 | 1395kHz (1400kHz) | TC201 | |
| 6 | Repeat steps 4 and 5 until both specification ratings are satisfied. | | | | |

AM (LW) Tuner Section Adjustment (F-551L/HE type and HB type only)

- Connect up as indicated in Fig.2-2.
- Press the AM (LW) key to set AM (LW) mode.
- CCTS switch OFF.
- Center the LW tuner section's trimmer and VR.

| Step No. | AM SG (400Hz, 30% modulation) | | F-551L Frequency display | Adjustment | |
|----------|--|-----------|-----------------------------|---------------------|---|
| | Frequency(kHz) | Level(dB) | | Adjustment location | Specifications |
| 1 | No input signal | | 281kHz | L202 | Set TP4 of tuner assembly to 5.2V(±0.1V). |
| 2 | 164 | 40 | 164kHz | T202 | Set the output from TP2 of the tuner assembly to maximum level. |
| 3 | 254 | 40 | 254kHz | TC203 | |
| 4 | Repeat steps 2 and 3 until both specification ratings are satisfied. | | | | |

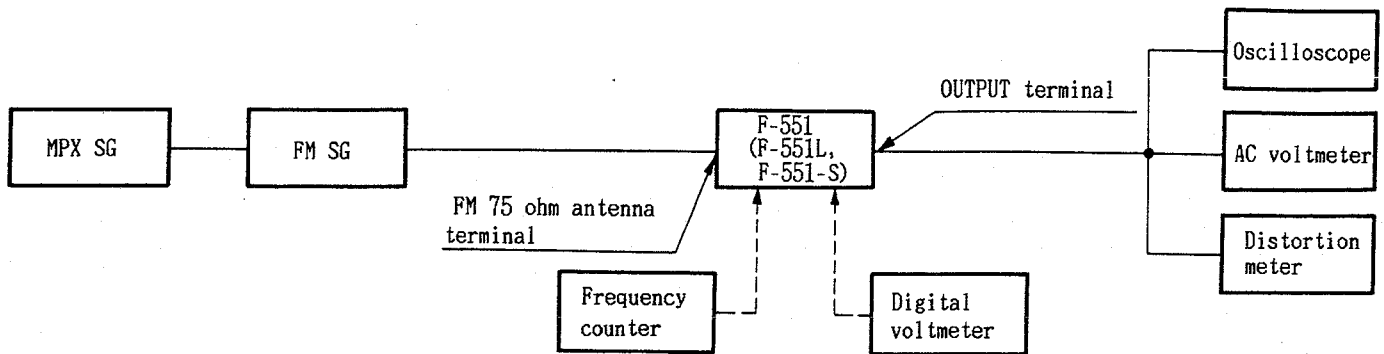


Fig.2-1. FM adjustment connection diagram

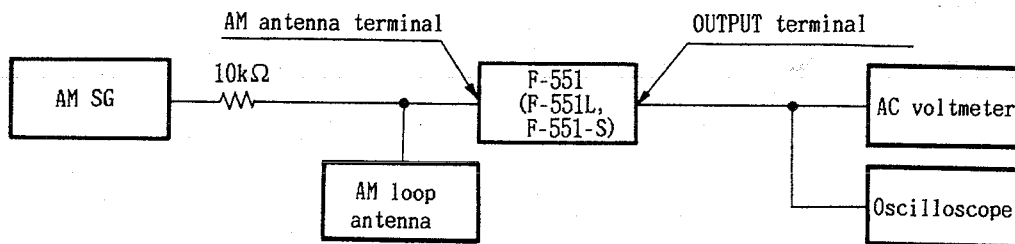


Fig.2-2. AM adjustments connection diagram

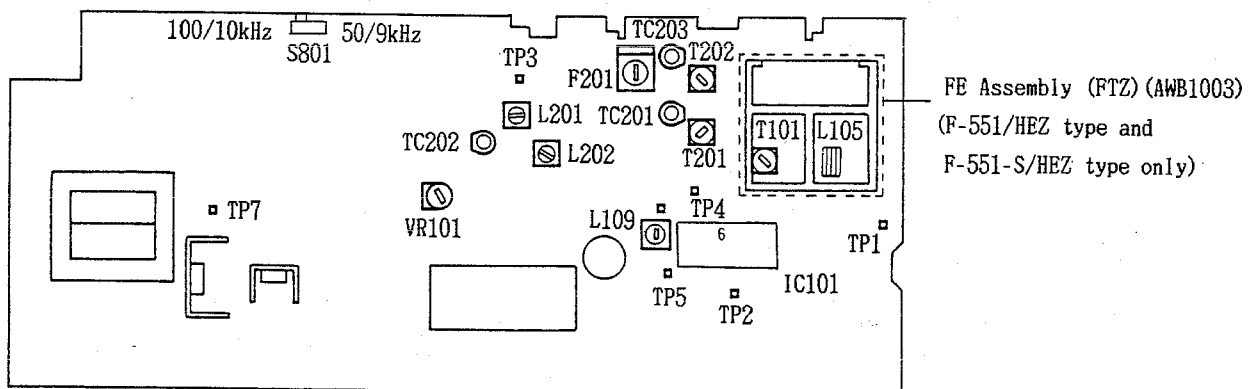


Fig.2-3. Adjustment positions

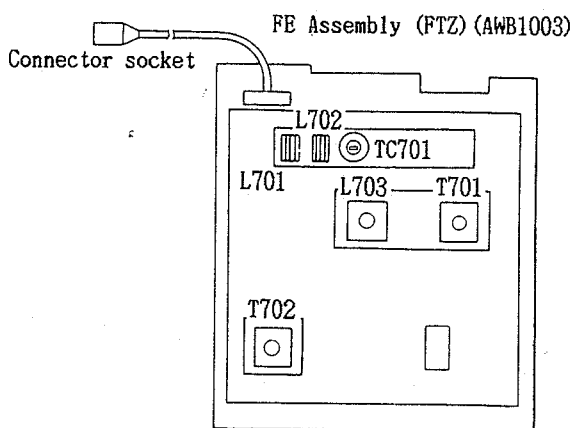
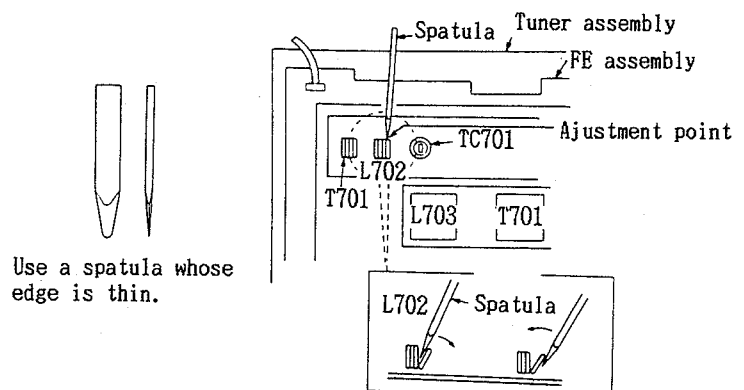


Fig.2-4. Adjustment point of FE Assembly



To make the output maximum by opening and closing of the first right side turn of the coil.

Fig.2-5. Adjustment tuning coil L702

2. RÉGLAGE

Réglage de la partie syntoniseur FM

- Faire les raccordements comme indiqué en Fig.2-1.
- Enfoncer la touche FM pour régler en mode FM.
- Sélecteur CCTS hors action.
- Centrer les sections du trimmer et VR du tuner FM.

Note: Modulation stéréo: Principal 1kHz L + R \pm 68,25Hz dév.
Pilote 19kHz \pm 6,75kHz dév.

| Etape N° | FM SG (1kHz \pm 75kHz dév.) | | Affichage de fréquence syntonisée F-551 (F-551L, F-551-S) | Réglage | |
|-------------|----------------------------------|------------|---|-----------------|--|
| | Fréquence(MHz) | Niveau(dB) | | Lieu de réglage | Caractéristiques |
| 1 *1 | Pas de signal d'entrée | | 108,0MHz | L105 | Ajuster de sorte que TP4 soit 10V(\pm 0,3V). |
| 2 *1 | 98,0 | 20-30 | 98,0MHz | T101 | Régler la puissance de la fiche 1 del' ensemble syntoniseur au niveau maximal. |
| 3 | 98,0 | 60 | 98,0MHz | L109 | Ajuster la bobine de sorte qu'elle se trouve à 0V entre TP5 et TP6. |
| 4 | Pas de signal d'entrée | | 98,0MHz | VR101 | Mettre la broche 6 de IC101 à la masse par un condensateur de 220 μ F et régler de sorte que TP7 soit 19kHz (\pm 50Hz). |
| 5 | 98,0 | 60 | 98,0MHz | T101 | Réduire la distorsion dans les sorties des deux canaux droit et gauche (régler T101 à \pm 90°) . |
| | Modulation stéréo (Note) | | | | |

* 1 : Pour le F-551/HEZ et le F-551-S/HEZ, procéder comme illustré sur le schéma ci-dessous au lieu de procéder aux étapes 1 et 2 ci-dessus. Se reporter aux Fig.2-4 et 2-5 pour l'emplacement des réglages.

| | | | | | | |
|---|---|--|-------|----------|--------------------|--|
| 1 | ① | 90,0 | 20—30 | 90,0MHz | L702*2, L703, T701 | Régler la sortie à partir de TP2 del' assemblage du tuner an niveau maximum. (Masureur du S) |
| | ② | 106,0 | | 106,0MHz | TC701, L703, T701 | |
| | ③ | 90,0 | | 90,0MHz | L702 *2 | |
| | ④ | 98,0 | | 98,0MHz | T702 | |
| | ⑤ | Répéter les étapes 1—② et 1—③ jusqu'à ce que les deux spécifications du classement soient rencontrées. | | | | |

* 2 : L'expression "ajuster L702" trouvée dans l'explication signifie que le self d'accord doit être étendu de hors avec une spatule (non métallique) comme montré dans la Fig.2-5.

Réglage de la partie syntoniseur AM (MW)

- Faire les raccordements comme indiqué en Fig.2-2.
- Enfoncer la touche AM (MW) pour régler en mode AM (MW).
- Pour le F-551/KUC et SD, régler l'interrupteur FM/AM CHANNEL STEP (S801) sur 100/10kHz.
Pour les autres types, laisser l'interrupteur sur 50/9kHz (toujours couper l'alimentation lors de ces réglages).
- La valeur entre parenthèses dans la section de la "Méthode de réglage" représente la valeur lorsque S801 est 100/10kHz.
- Sélecteur CCTS hors action.
- Centrer les sections du trimmer et VR du tuner MW.

| Etape N° | AM SG (400Hz, 30% modulation) | | Affichage de fréquence syntonisée F-551 (F-551L, F-551-S) | Réglage | |
|-------------|--|------------|---|-----------------|---|
| | Fréquence(kHz) | Niveau(dB) | | Lieu de réglage | Caractéristiques |
| | | | | | |
| 1 | Pas de signal d'entrée | | 531kHz (530kHz) | L201 | Régler la TP4 del' ensemble syntoniseur à 1,3V (±0,1V). |
| 2 | | | 1602kHz (1700kHz) | TC202 | Régler la TP4 del' ensemble syntoniseur à 10,0V (±0,3V). |
| 3 | Répéter les Etapes 1 et 2 jusqu'à ce que les taux nominaux préconisés soient atteints. | | | | |
| 4 | 603 (600) | 40 | 603kHz (600kHz) | T201 | Régler la puissance de la TP2 del' ensemble syntoniseur au niveau maximal. |
| 5 | 1395 (1400) | 40 | 1395kHz (1400kHz) | TC201 | |
| 6 | Répéter les Etapes 4 et 5 jusqu'à ce que les taux nominaux préconisés soient atteints. | | | | |

Réglage de la partie syntoniseur AM (LW) (F-551L/HE et HB uniquement)

- Faire les raccordements comme indiqué en Fig.2-2.
- Enfoncer la touche AM (LW) pour régler en mode AM (LW).
- Sélecteur CCTS hors action.
- Centrer les sections du trimmer et VR du tuner LW.

| Etape N° | AM SG (400Hz, 30% modulation) | | Affichage de fréquence syntonisée F-551L | Réglage | |
|-------------|---|------------|--|-----------------|--|
| | Fréquence(kHz) | Niveau(dB) | | Lieu de réglage | Caractéristiques |
| | | | | | |
| 1 | Pas de signal d'entrée | | 281kHz | L202 | Régler la TP4 del' ensemble syntoniseur à 5,2V (±0,1V). |
| 2 | 164 | 40 | 164kHz | T202 | Régler la puissance de la TP2 del' ensemble syntoniseur au niveau maximal. |
| 3 | 254 | 40 | 254kHz | TC203 | |
| 4 | Répéter les Etapes 2 et 3 jusqu'à ce que les taux préconisés soient atteints. | | | | |

F-551, F-551-S, F-551L

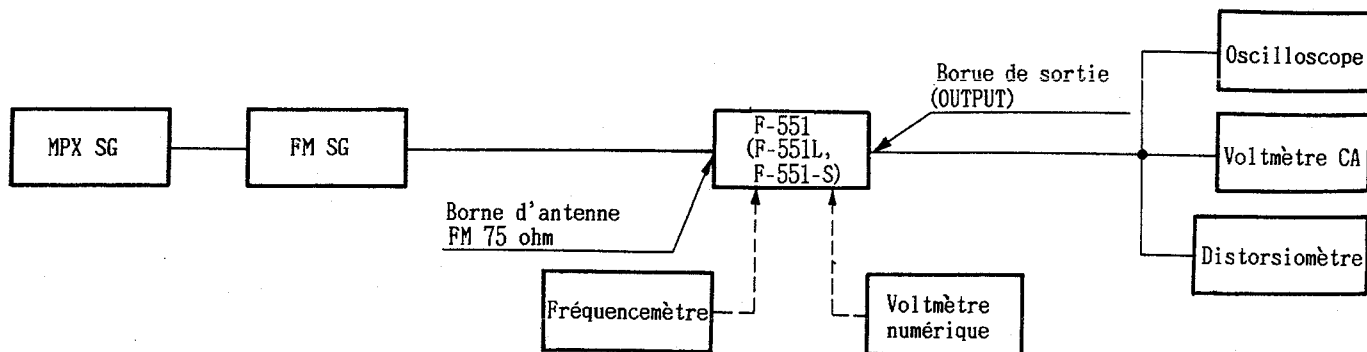


Fig.2-1. Diagramme de reccordement de réglage FM

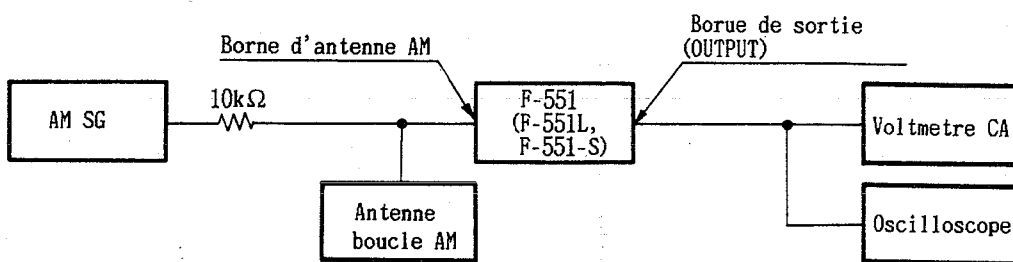


Fig.2-2. Diagramme de reccordement de réglage AM

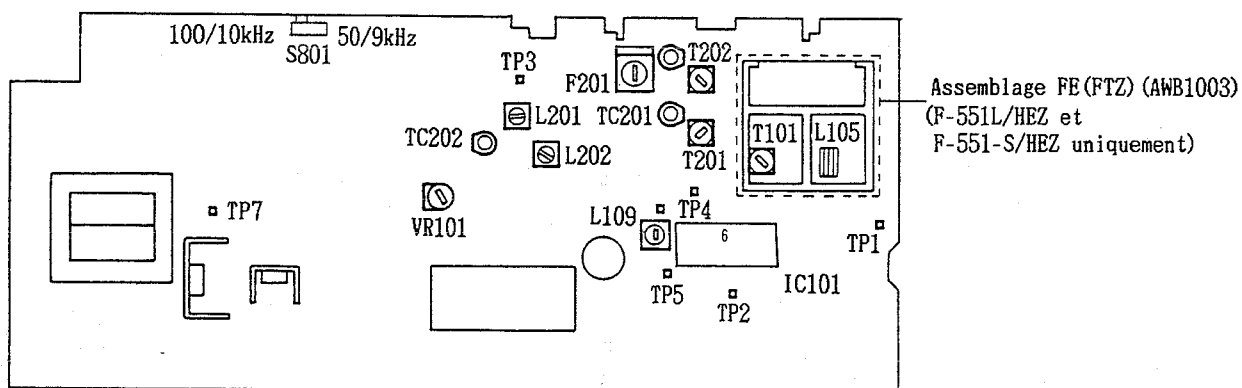


Fig.2-3. Positions de réglage

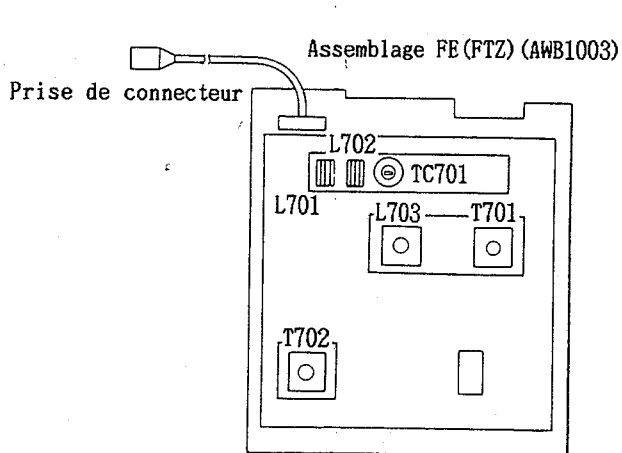


Fig.2-4. Point d'ajustement du l'assemblage FE

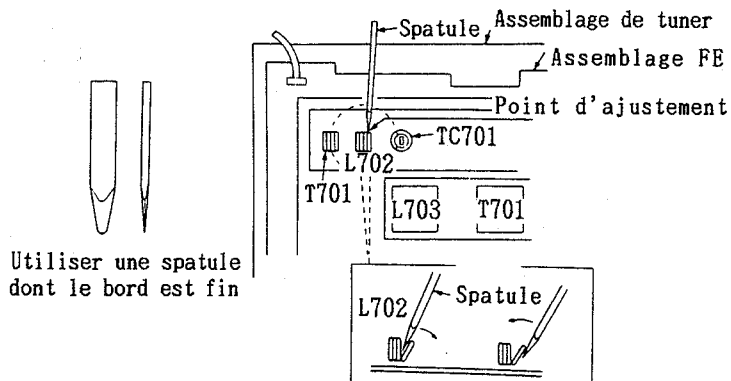


Fig.2-5. Réglage du self d'accord L702

2. AJUSTE

Ajuste de la sección del sintonizador de FM

- Conecte como es indicado en la Fig.2-1.
- Oprima la tecla de FM para fijar el modo de FM.
- Desconexión de CCTS.
- Centre el corrector de sintonía y el resistor variable de la sección del sintonizador de FM.

Nota : Modulación estereo: Principal 1kHz L+R \pm 68,25Hz dev.
Piloto 19kHz \pm 6,75kHz dev.

| No. de paso | FM SG (1kHz \pm 75kHz dev.) | | Visualización de frecuencia sintonizada F-551 (F-551L, F-551-S) | Lugar de ajuste | Ajuste |
|-------------|----------------------------------|-----------|--|-----------------|---|
| | Frecuencia(MHz) | Nivel(dB) | | | Especificaciones |
| 1 *1 | No hay señal de entrada | | 108,0MHz | L105 | Ajuste hasta obtener en TP4 una tensión de 10V (\pm 0,3V). |
| 2 *1 | 98,0 | 20-30 | 98,0MHz | T101 | Fije la salida de la patilla 1 del conjunto del sintonizador al máximo nivel. |
| 3 | 98,0 | 60 | 98,0MHz | L109 | Ajuste de forma que la tensión entre TP5 y TP6 sea de 0V. |
| | Sin modulación | | | | |
| 4 | No hay señal de entrada | | 98,0MHz | VR101 | Ponga a masa la patilla 6 de IC101 a través de un capacitor de 220 μ F, y ajuste hasta obtener en TP7 una frecuencia de 19kHz(\pm 50Hz). |
| 5 | 98,0 | 60 | 98,0MHz | T101 | Reduzca la distorsión tanto en la salida del canal izquierdo como en la del derecho (ajuste T101 a dentro de \pm 90°). |
| | Modulación estereo (Nota) | | | | |

* 1 : Para los tipos F-551/HEZ y F-551-S/HEZ, realice lo indicado en la tabla siguiente en vez de emplear los pasos 1 y 2 de la tabla anterior. Con respecto a los lugares de ajuste, consulte las Fig.2-4 y 2-5.

| | | | | | | |
|---|---|-------|-------|----------|------------------|--|
| 1 | ① | 90,0 | 20-30 | 90,0MHz | L702*2,L703,T701 | Ajuste la salida de TP2 del conjunto del sintonizador al nivel máximo. (medidor de S.) |
| | ② | 106,0 | | 106,0MHz | TC701,L703,T701 | |
| | ③ | 90,0 | | 90,0MHz | L702*2 | |
| | ④ | 98,0 | | 98,0MHz | T702 | |
| | ⑤ Repita los pasos 1-② y 1-③ hasta que se satisfagan los valores de las especificaciones. | | | | | |

* 2 : La expresión "ajuste L702" encontrada significa que la bobina de sintonía tiene que extenderse hacia afuera con una espátula (no metálica) como se muestra en la Fig.2-5.

Ajuste de la sección del sintonizador de AM (MW)

- Conecte como es indicado en la Fig.2-2.
- Oprima la tecla AM (MW) para fijar el modo AM (MW).
- Para los tipos F-551/KUC y SD, ponga el conmutador FM/AM STEP CHANNEL (S801) en 100/10kHz. Para todos los demás tipos, ponga este conmutador en 50/9kHz. (Antes de realizar este ajuste, desconecte siempre la alimentación.) El valor entre paréntesis () de la sección del método de ajuste es el correspondiente cuando S801 está en 100/10kHz.
- Desconexión de CCTS.
- Centre el corrector de sintonía y el resistor variable de la sección del sintonizador de MW.

| No. de paso | AM SG (400Hz, 30% modulation) | | Visualización de frecuencia sintonizada F-551 (F-551L, F-551-S) | Lugar de ajuste | Ajuste |
|-------------|--|------------|--|-----------------|---|
| | Frecuencia(kHz) | Nivel (dB) | | | Especificaciones |
| 1 | No hay señal de entrada | | 531kHz (530kHz) | L201 | Fije la TP4 del conjunto del sintonizador a 1,3V ($\pm 0,1V$). |
| 2 | | | 1602kHz (1700kHz) | TC202 | Fije la TP4 del conjunto del sintonizador a 10,0V ($\pm 0,3V$). |
| 3 | Repita los pasos 1 y 2 hasta que ambos valores nominales especificados sean satisfechos. | | | | |
| 4 | 603 (600) | 40 | 603kHz (600kHz) | T201 | Fije la salida de la TP2 del conjunto del sintonizador al máximo nivel. |
| 5 | 1395 (1400) | 40 | 1395kHz (1400kHz) | TC201 | |
| 6 | Repita los pasos 4 y 5 hasta que ambos valores nominales especificados sean satisfechos. | | | | |

Ajuste de la sección del sintonizador de AM (LW) (Tipos F-551L/HE y HB solamente)

- Conecte como es indicado en la Fig.2-2.
- Oprima la tecla AM (LW) para fijar el modo AM (LW).
- Desconexión de CCTS.
- Centre el corrector de sintonía y el resistor variable de la sección del sintonizador de LW.

| No. de paso | AM SG (400Hz, 30% modulation) | | Visualización de frecuencia sintonizada F-551L | Lugar de ajuste | Ajuste |
|-------------|--|------------|---|-----------------|---|
| | Frecuencia(kHz) | Nivel (dB) | | | Especificaciones |
| 1 | No hay señal de entrada | | 281kHz | L202 | Fije la TP4 del conjunto del sintonizador a 5,2V ($\pm 0,1V$). |
| 2 | 164 | 40 | 164kHz | T202 | Fije la salida de la TP2 del conjunto del sintonizador al máximo nivel. |
| 3 | 254 | 40 | 254kHz | TC203 | |
| 4 | Repita los pasos 2 y 3 hasta que ambos valores nominales especificados sean satisfechos. | | | | |

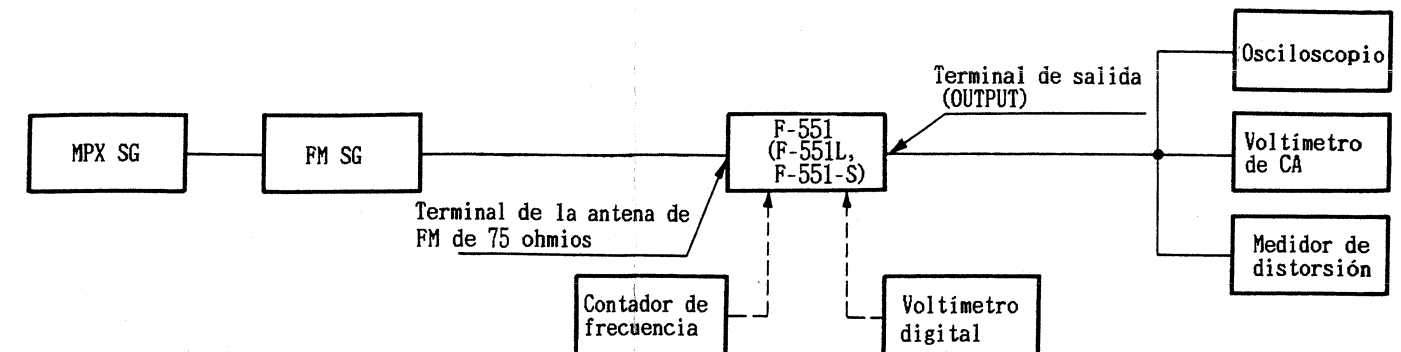


Fig.2-1. Diagrama de conexión de ajuste de FM

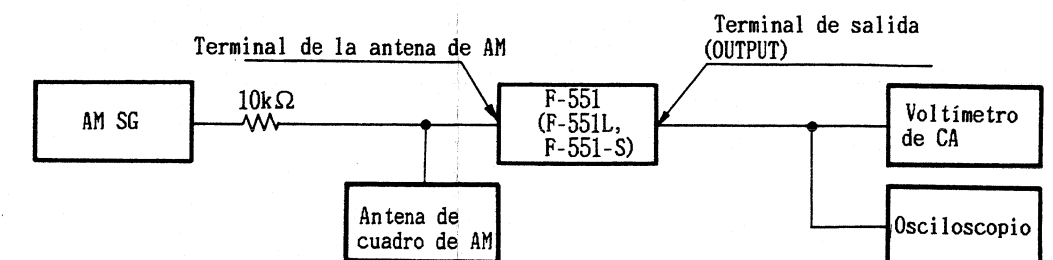


Fig.2-2. Diagrama de conexión de ajuste de AM

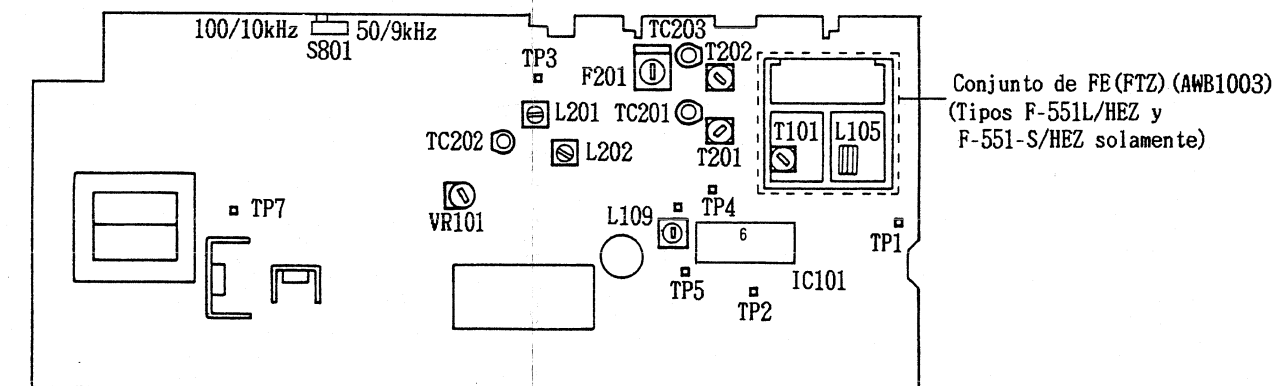


Fig.2-3. Puntos de ajuste

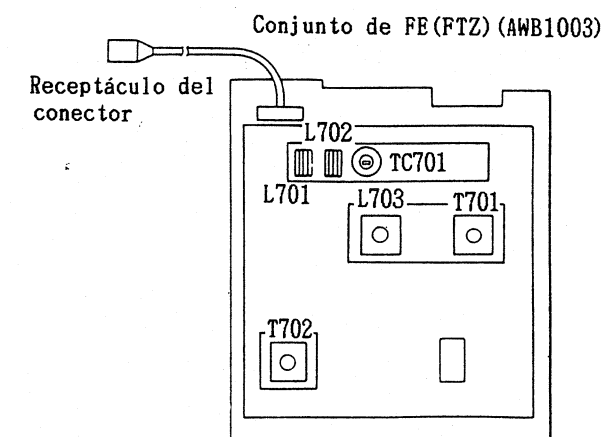
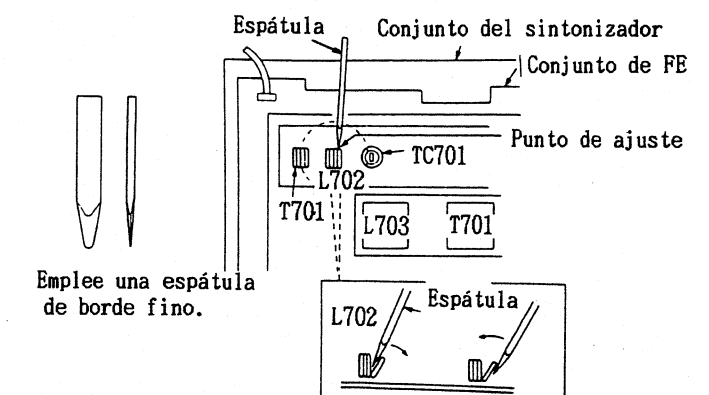


Fig.2-4. Punto de ajuste del conjunto de FE

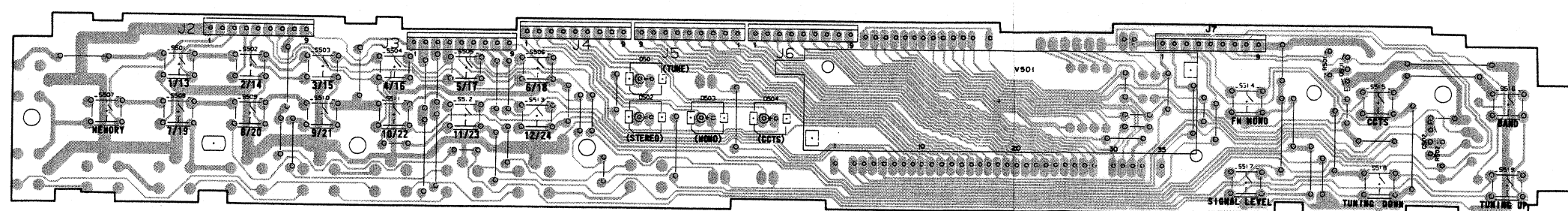



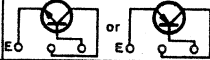
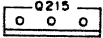
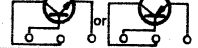
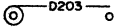

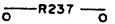





Para hacer que la salida sea máxima abriendo y cerrando la primera espira de la parte derecha de la bobina.

Fig.2-5. Ajuste de la bobina de sintonía L702

C

DISPLAY ASSEMBLY



| P.C.B. pattern diagram indication | Corresponding part symbol | Part Name |
|---|---|--------------------------|
|  |  | Transistor |
|  |  | Radiator type transistor |
|  |  | Diode |
|  |  | Resistor |
|  |  | Capacitor (Polarity) |
|  |  | Capacitor (Non-polarity) |

| P.C.B. pattern diagram indication | Part Name |
|-----------------------------------|---|
| IC | IC |
| S | Switch |
| RY | Relay |
| L | Coil |
| F | Filter |
| VR | Variable resistor or Semi-fixed resistor |

3. The capacitor terminal marked with \odot (double circles) shows negative terminal.
4. The diode terminal marked with \odot (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

3.3 ELECTRICAL PARTS LIST (FOR F-551/KUC TYPE)

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks $\star\star$ and \star .

$\star\star$ GENERALLY MOVES FASTER THAN \star

This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

| | | | |
|--------------|------------------|----------|---|
| 560 Ω | 56×10^1 | 561..... | RD1/4PS \square \square \square J |
| 47k Ω | 47×10^3 | 473..... | RD1/4PS \square \square \square J |
| 0.5 Ω | 0R5..... | | RN2H \square \square \square K |
| 1 Ω | 010..... | | RS1P \square \square \square K |

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

| | | | |
|----------------|-------------------|-----------|---|
| 5.62k Ω | 562×10^1 | 5621..... | RN1/4SR \square \square \square \square F |
|----------------|-------------------|-----------|---|

Miscellaneous Parts

| Mark | Symbol & Description | Part No. |
|--------------------|--------------------------|----------|
| | SWITCH assembly | |
| | DISPLAY assembly | |
| | TUNER assembly | AWZ1417 |
| $\Delta\star\star$ | FU301 Fuse (500mA) | AEK-136 |
| Δ | AC power cord | ADG-088 |
| | L1 Loop antenna assembly | ATB-113 |

SWITCH Assembly

| Mark | Symbol & Description | Part No. |
|--------------------|--------------------------|----------|
| $\Delta\star\star$ | S301 Push switch (POWER) | ASG-413 |

DISPLAY Assembly

| Mark | Symbol & Description | Part No. |
|--------------|----------------------|----------|
| $\star\star$ | Q501, Q502 | RN1203 |
| \star | D502 | AEL1009 |
| \star | D501, D503, D504 | AEL1015 |

SWITCHES

| Mark | Symbol & Description | Part No. |
|--------------|---|----------|
| $\star\star$ | S501-S519 Tact switch (STATION CALL, MEMORY, FM MONO, CCTS, BAND, SIGNAL LEVEL, TUNING) | ASG-711 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|-------------|
| | R501, R502 | RD1/8PM332J |

OTHERS

| Mark | Symbol & Description | Part No. |
|---------|------------------------------------|----------|
| \star | V501 Fluorescent indicator tube | AAV-023 |

TUNER Assembly (AWZ1417)

| Mark | Symbol & Description | Part No. |
|--------------------|---|------------|
| $\star\star$ | IC102 | AN7470P |
| $\star\star$ | IC201 | LA1247 |
| $\star\star$ | IC402 | LC7217 |
| $\star\star$ | IC403 | M5223P |
| $\Delta\star\star$ | IC301 | NJM78M13A |
| $\star\star$ | IC101 | PA3001-A |
| $\star\star$ | IC401 | PD5057-B |
| $\star\star$ | Q109, Q407, Q411-Q414 | RN1203 |
| $\star\star$ | Q403, Q404 | RN2203 |
| $\star\star$ | Q408 | 2SA1048 |
| $\star\star$ | Q401, Q402 | 2SC1740SLN |
| $\star\star$ | Q107, Q108, Q406, Q409, Q410, Q801 | 2SC2458 |
| $\star\star$ | Q103, Q104 | 2SC2668 |
| $\star\star$ | Q102 | 2SC2786 |
| $\star\star$ | Q301 | 2SD880 |
| $\star\star$ | Q110 | 2SJ103 |
| $\star\star$ | Q105, Q106 | 2SK161 |
| $\star\star$ | Q101 | 2SK241 |
| \star | D201 | KV0714-2 |
| \star | D406 | RD2.4ESB2 |
| \star | D305 | RD6.2ESB3 |
| $\Delta\star$ | D301-D304 | S5566 |
| \star | D104-D108, D209, D306-D308, D401-D405, D407-D410, D413 | 1SS131 |
| \star | D101-D103 | 1SV147 |

SWITCH

| Mark | Symbol & Description | Part No. |
|------|---|----------|
| ★★ | S801 Slide switch (FM/AM CHANNEL STEP) | ASH-031 |

COILS, FILTERS AND TRANSFORMERS

| Mark | Symbol & Description | Part No. |
|------|---|----------|
| | L201 AM OSC coil | ATB-100 |
| | L101 FM coil | ATC1001 |
| | L102 FM coil | ATC1002 |
| | L105 FM coil | ATC1011 |
| | L103 FM coil | ATC1004 |
| | L104 FM coil | ATC1005 |
| | L109 FM detector coil | ATE-074 |
| | L106-L108, L110, L401, L402 Axial inductor (2.2μH) | LAU2R2M |
| | F102 RM ceramic filter | ATF-107 |
| | F101 FM ceramic filter | ATF-119 |
| | F201 AM ceramic filter | ATF-208 |
| | T201 AM antenna transformer | ATB-095 |
| | T101 FM matching transformer | ATE-063 |
| △ ★ | T301 Power transformer | ATS-132 |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|------------------------------|-------------|
| | TC201, TC202 Trimmer | ACM-015 |
| | C404 (22000 μF/5.5V) | ACH1023 |
| | C156 | CCDCH040C50 |
| | C204 | CCDCH070D50 |
| | C115 | CCDCH080D50 |
| | C113 | CCDCH150J50 |
| | C405, C406 | CCDCH270J50 |
| | C114 | CCDCH330J50 |
| | C101, C105, C106 | CCDRH330J50 |
| | C102 | CCDRH390J50 |
| | C107 | CCDSL020C50 |
| | C108 | CCDSL030C50 |
| | C109 | CCDSL050C50 |
| | C117 | CCDSL070D50 |
| | C110 | CCDSL101J50 |
| | C122 | CCDSL221J50 |
| | C402, C403 | CCDSL270J50 |
| | C116 | CCDTH180J50 |
| | C146, C408 | CEASR22M50 |
| | C119, C123, C131, C410, C413 | CEAS010M50 |
| | C147 | CEAS1R5M50 |
| | C218 | CEAS100M50 |
| | C304 | CEAS101M10 |
| | C226 | CEAS101M16 |
| | C150, C151 | CEAS2R2M50 |

| Mark | Symbol & Description | Part No. |
|------|---|----------------------------|
| | C125 | CEAS220M25 |
| | C142, C305 | CEAS221M16 |
| | C302 | CEAS222M35 |
| | C148, C401 | CEAS3R3M50 |
| | C130, C141, C211-C213 | CEAS4R7M50 |
| | C303 | CEAS470M10 |
| | C143, C214 | CEAS470M16 |
| | C216, C221 | CKDYB102K50 |
| | C144, C145 | CKDYB152K50 |
| | C152, C153 | CKDYB322K50 |
| | C103, C104, C111, C112, C118, C154, C201, C219, C224, C407 C225 | CKDYF103Z50 |
| | C120, C121, C124, C126, C128, C129, C132, C209, C210, C215, C217, C222, C307, C409, C411, C412 | CKDYF222Z50 CKDYF223Z50 |
| | C155, C220, C223, C306 | CKDYF473Z50 |
| | C127 | CKDYX473M25 |
| | C205 | CQSA431J50 |
| | C149 | CQSA471J50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|-----------------------------|-------------|
| ★ | VR101 Semi-fixed (4.7kΩ) | VRTB6VS472 |
| △ | R306 Solid resistor (2.2M) | ACN-208 |
| | R466 Resistor array (22k×4) | RA4S223J |
| △ | R216, R218 | RD1/4PM□□□J |
| △ | R301 | RS1PMF182J |
| | Other resistors | RD1/8PM□□□J |

OTHERS

| Mark | Symbol & Description | Part No. |
|------|--------------------------------------|----------|
| ★ | X402 Crystal resonator (7.20MHz) | ASS-025 |
| ★ | X401 Ceramic resonator (4.000MHz) | ASS-030 |
| ★ | X202 Ceramic resonator (450.0kHz) | ATF-125 |
| | 4P Termianl (ANTENNA) | AKA-017 |
| | 2P Pin jack | AKB-119 |
| | Mini jack | AKN-207 |

3.4 ELECTRICAL PARTS LIST (FOR F-551/SD TYPE)

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "◎" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The △ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.

★★ GENERALLY MOVES FASTER THAN ★

This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

| | | | | | | | |
|------|----------------------|----------|---------|---|---|---|---|
| 560Ω | 56 × 10 ¹ | 561..... | RD1/4PS | □ | □ | □ | J |
| 47kΩ | 47 × 10 ³ | 473..... | RD1/4PS | □ | □ | □ | J |
| 0.5Ω | 0R5..... | | RN2H | □ | □ | □ | K |
| 1Ω | 010..... | | RS1P | □ | □ | □ | K |

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

| | | | | | | | | |
|--------|-----------------------|-----------|---------|---|---|---|---|---|
| 5.62kΩ | 562 × 10 ¹ | 5621..... | RN1/4SR | □ | □ | □ | □ | F |
|--------|-----------------------|-----------|---------|---|---|---|---|---|

Miscellaneous Parts

| Mark | Symbol & Description | Part No. |
|------|----------------------|----------|
| | SWITCH assembly | |
| | DISPLAY assembly | |
| | TUNER assembly | AWZ1418 |
| △★★ | FU301 Fuse (500mA) | AEK-136 |
| △ | AC power cord | ADG1015 |

SWITCH Assembly

| Mark | Symbol & Description | Part No. |
|------|--------------------------|----------|
| △★★ | S301 Push switch (POWER) | ASG-413 |

DISPLAY Assembly

SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|----------|
| ★★ | Q501, Q502 | RN1203 |
| ★ | D502 | AEL1009 |
| ★ | D501, D503, D504 | AEL1015 |

SWITCHES

| Mark | Symbol & Description | Part No. |
|------|---|----------|
| ★★ | S501-S519 Tact switch (STATION CALL, MEMORY, FM MONO, CCTS, BAND, SIGNAL LEVEL, TUNING) | ASG-711 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|-------------|
| | R501, R502 | RD1/8PM332J |

OTHERS

| Mark | Symbol & Description | Part No. |
|------|------------------------------------|----------|
| ★ | V501 Fluorescent indicator tube | AAV-023 |

TUNER Assembly(AWZ1418)

SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|------|---|------------|
| ★★ | IC102 | AN7470P |
| ★★ | IC201 | LA1247 |
| ★★ | IC402 | LC7217 |
| ★★ | IC403 | M5223P |
| △★★ | IC301 | NJM78M13A |
| ★★ | IC101 | PA3001-A |
| ★★ | IC401 | PD5057-B |
| ★★ | Q109, Q407, Q411-Q414 | RN1203 |
| ★★ | Q403, Q404 | RN2203 |
| ★★ | Q408 | 2SA1048 |
| ★★ | Q401, Q402 | 2SC1740SLN |
| ★★ | Q107, Q108, Q406, Q409, Q410, Q801 | 2SC2458 |
| ★★ | Q103, Q104 | 2SC2668 |
| ★★ | Q102 | 2SC2786 |
| ★★ | Q301 | 2SD880 |
| ★★ | Q110 | 2SJ103 |
| ★★ | Q105, Q106 | 2SK161 |
| ★★ | Q101 | 2SK241 |
| ★★ | Q112, Q113 | 2SK246 |
| ★ | D201 | KV0714-2 |
| ★ | D406 | RD2.4ESB2 |
| ★ | D305 | RD6.2ESB3 |
| △★ | D301-D304 | S5566 |
| ★ | D104-D108, D209, D306-D308, D401-D405, D407-D410, D413 | 1SS131 |
| ★ | D101-D103 | 1SV147 |

SWITCHES

| Mark | Symbol & Description | Part No. |
|------|--|----------|
| △★★ | S302 Line voltage selector (110V, 120-127V, 220V, 240V) | AKX-505 |
| ★★ | S801 Slide switch (FM/AM CHANNEL STEP, FM DE-EMPHASIS) | ASH-031 |

**COILS, FILTERS
AND TRANSFORMERS**

| Mark | Symbol & Description | Part No. |
|------|---|----------|
| | L201 AM OSC coil | ATB-100 |
| | L101 FM coil | ATC1001 |
| | L102 FM coil | ATC1002 |
| | L103 FM coil | ATC1004 |
| | L104 FM coil | ATC1005 |
| | L105 FM coil | ATC1011 |
| | L109 FM detector coil | ATE-074 |
| | L106-L108, L110, L401, L402 Axial inductor (2.2 μ H) | LAU2R2M |
| | F102 FM ceramic filter | ATF-107 |
| | F101 FM ceramic filter | ATF-119 |
| | F201 AM ceramic filter | ATF-208 |
| | T201 AM antenna transformer | ATB-095 |
| | T101 FM matching transformer | ATE-063 |
| △ ★ | T301 Power transformer | ATS-097 |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|------------------------------|-------------|
| | TC201, TC202 Trimmer | ACM-015 |
| | C404 (22000 μ F/5.5V) | ACH1023 |
| | C156 | CCDCH040C50 |
| | C204 | CCDCH070D50 |
| | C115 | CCDCH080D50 |
| | C113 | CCDCH150J50 |
| | C405, C406 | CCDCH270J50 |
| | C114 | CCDCH330J50 |
| | C101, C105, C106 | CCDRH330J50 |
| | C102 | CCDRH390J50 |
| | C107 | CCDSL020C50 |
| | C108 | CCDSL030C50 |
| | C109 | CCDSL050C50 |
| | C117 | CCDSL070D50 |
| | C110 | CCDSL101J50 |
| | C122 | CCDSL221J50 |
| | C402, C403 | CCDSL270J50 |
| | C116 | CCDTH180J50 |
| | C146, C408 | CEASR22M50 |
| | C119, C123, C131, C410, C413 | CEAS010M50 |
| | C147 | CEAS1R5M50 |
| | C218 | CEAS100M50 |
| | C304 | CEAS101M10 |
| | C226 | CEAS101M16 |
| | C150, C151 | CEAS2R2M50 |
| | C125 | CEAS220M25 |
| | C142, C305 | CEAS221M16 |
| | C302 | CEAS222M35 |
| | C148, C401 | CEAS3R3M50 |
| | C130, C141, C211-C213 | CEAS4R7M50 |

| Mark | Symbol & Description | Part No. |
|------|---|----------------------------|
| | C303 | CEAS470M10 |
| | C143, C214 | CEAS470M16 |
| | C144, C145, C216, C221 | CKDYB102K50 |
| | C152, C153 | CKDYB182K50 |
| | C158, C159 | CKDYB561K50 |
| | C103, C104, C111, C112, C118, C154, C201, C219, C224, C407 C225 | CKDYF103Z50 |
| | C120, C121, C124, C126, C128, C129, C132, C209, C210, C215, C217, C222, C307, C409, C411, C412 | CKDYF222Z50 CKDYF223Z50 |
| | C155, C220, C223, C306 | CKDYF473Z50 |
| | C127 | CKDYX473M25 |
| | C205 | CQSA431J50 |
| | C149 | CQSA471J50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|--------------------------------------|-------------|
| ★ | VR101 Semi-fixed (4.7k Ω) | VRTB6VS472 |
| | R466 Resistor array (22k \times 4) | RA4S223J |
| △ | R216, R218 | RD1/4PM□□□J |
| △ | R301 | RS1PMF182J |
| | Other resistors | RD1/8PM□□□J |

OTHERS

| Mark | Symbol & Description | Part No. |
|------|--------------------------------------|----------|
| ★ | X402 Crystal resonator (7.20MHz) | ASS-025 |
| ★ | X401 Ceramic resonator (4.000MHz) | ASS-030 |
| ★ | X202 Ceramic resonator (450.0kHz) | ATF-125 |
| | 4P Terminal (ANTENNA) | AKA-017 |
| | 2P Pin jack | AKB-119 |
| | Mini jack | AKN-207 |

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F-551/HEZ, F-551-S/HEZ

4. FOR F-551/HEZ AND F-551-S/HEZ TYPES

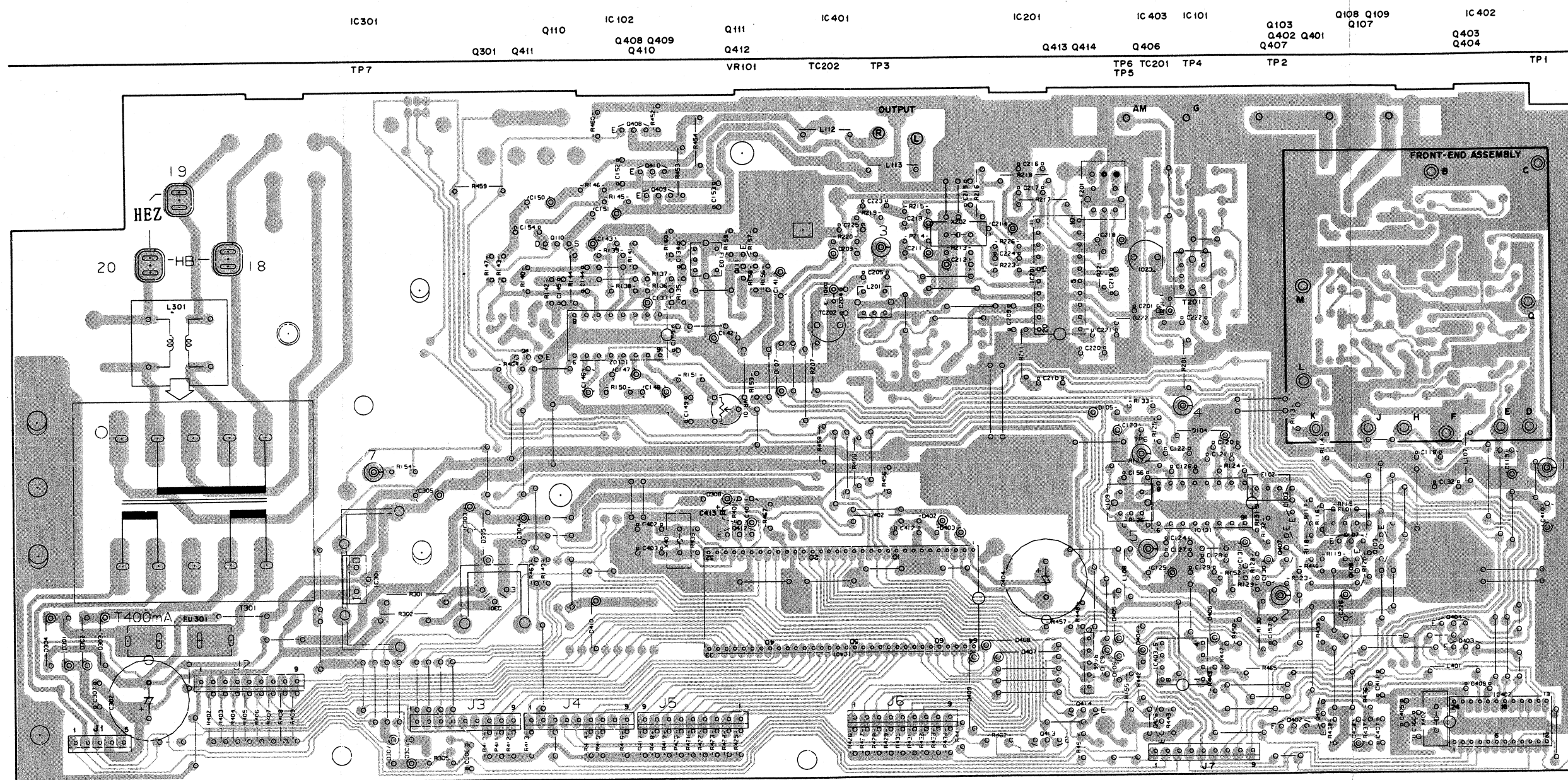
4.1 P.C. BOARDS PATTERN

A

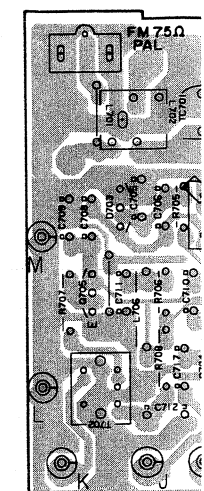
B

C

D

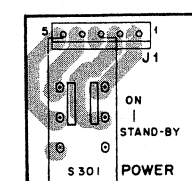


FE ASSEMBLY (

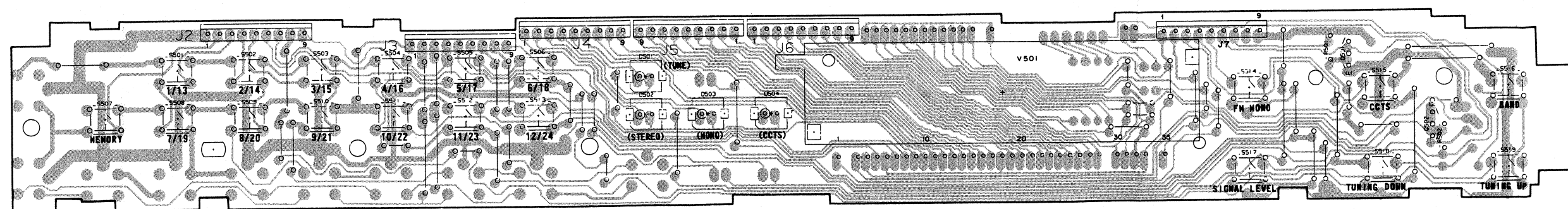


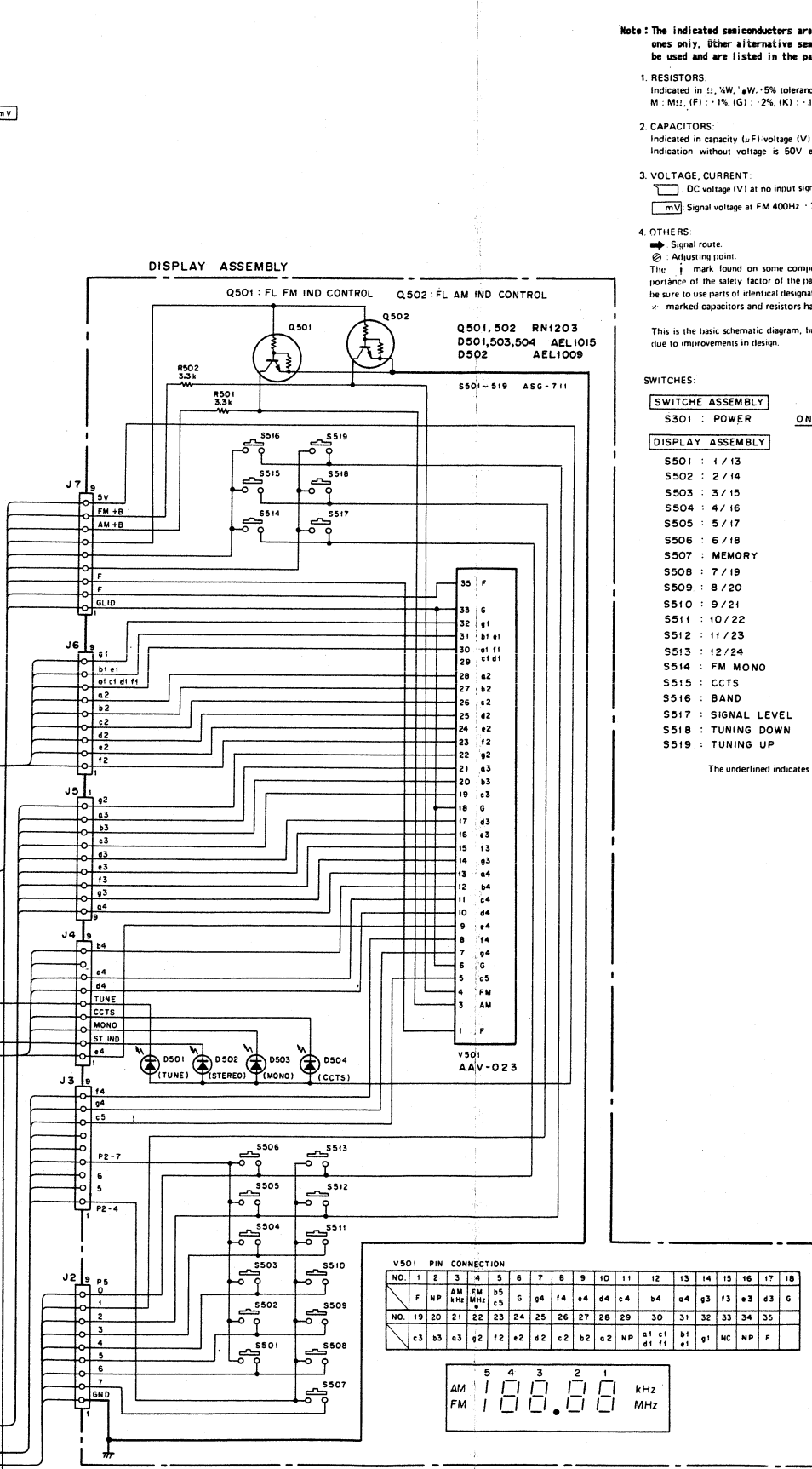
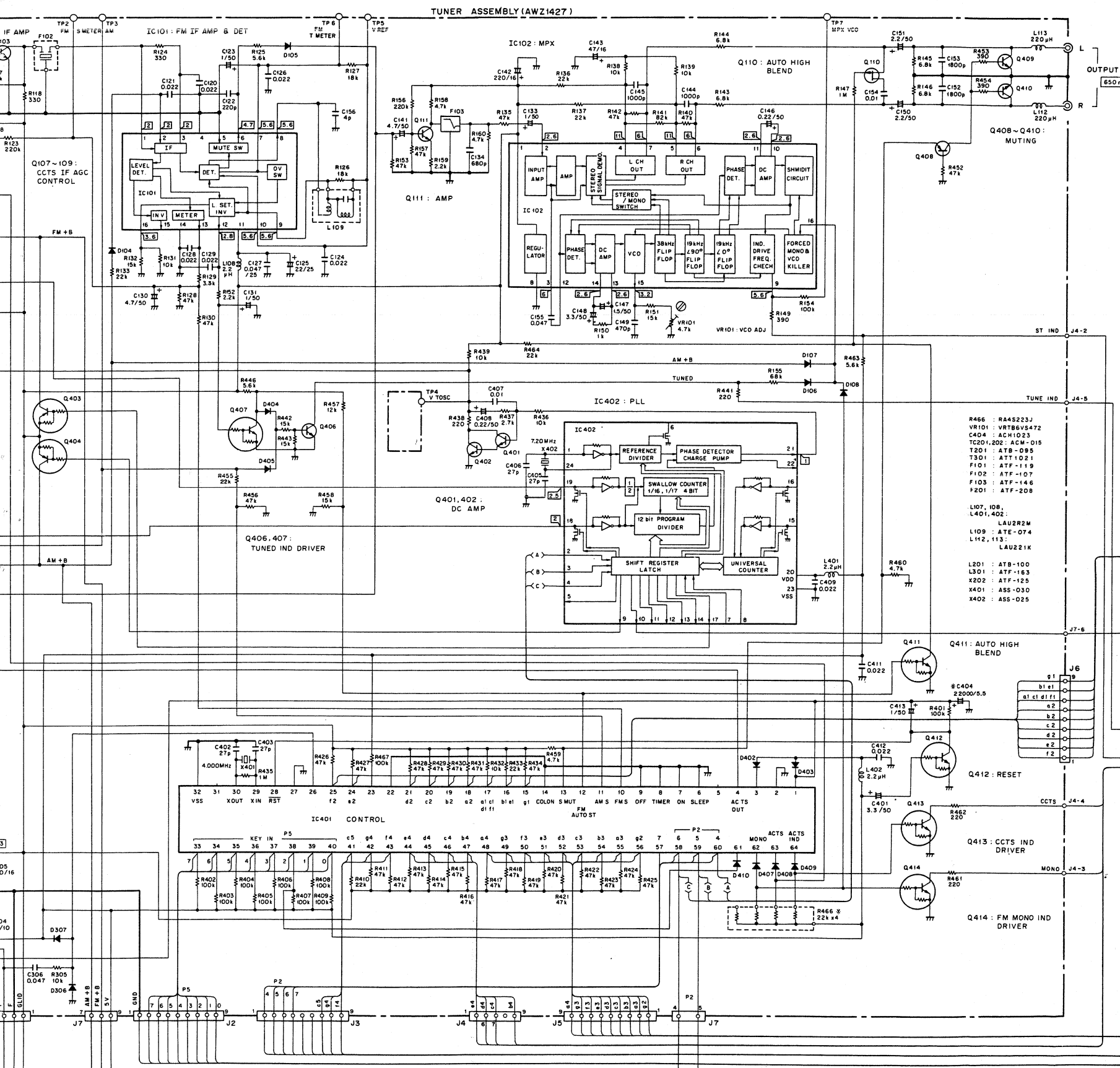
TUNER ASSEMBLY (ANZ1427)

DISPLAY ASSEMBLY



SWITCH ASSEMBLY





Note: The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.

1. RESISTORS:
Indicated in Ω , $k\Omega$, $M\Omega$, $\pm 5\%$ tolerance unless otherwise noted k: $k\Omega$, M: $M\Omega$, (F): $\pm 1\%$, (G): $\pm 2\%$, (K): $\pm 10\%$ (M): $\pm 20\%$ tolerance

2. CAPACITORS:
Indicated in capacity (μF) voltage (V) unless otherwise noted p: pF
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT:
DC voltage (V) at no input signal
mV: Signal voltage at FM 400Hz ± 75 kHz DEV.

4. OTHERS:
Signal route
Adjusting point
The mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

SWITCHES:

SWITCH ASSEMBLY
S301: POWER ON - STAND-BY

DISPLAY ASSEMBLY
S501: 1/13
S502: 2/14
S503: 3/15
S504: 4/16
S505: 5/17
S506: 6/18
S507: MEMORY
S508: 7/19
S509: 8/20
S510: 9/21
S511: 10/22
S512: 11/23
S513: 12/24
S514: FM MONO
S515: CCTS
S516: BAND
S517: SIGNAL LEVEL
S518: TUNING DOWN
S519: TUNING UP

The underlined indicates the switch position.

A

B

C

D

4.3 ELECTRICAL PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
- ★★ **GENERALLY MOVES FASTER THAN ★**
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

| | | | | | | |
|------|----------------------|----------|---------|---|---|---|
| 560Ω | 56 × 10 ¹ | 561..... | RD1/4PS | □ | □ | J |
| 47kΩ | 47 × 10 ³ | 473..... | RD1/4PS | □ | □ | J |
| 0.5Ω | 0R5..... | | RN2H | □ | □ | K |
| 1Ω | 010..... | | RSIP | □ | □ | K |

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

| | | | | | | | |
|--------|-----------------------|-----------|---------|---|---|---|---|
| 5.62kΩ | 562 × 10 ¹ | 5621..... | RN1/4SR | □ | □ | □ | F |
|--------|-----------------------|-----------|---------|---|---|---|---|

Miscellaneous Parts

| Mark | Symbol & Description | Part No. |
|------|--------------------------|----------|
| | SWITCH assembly | |
| | DISPLAY assembly | |
| | TUNER assembly | AWZ1427 |
| Δ★★ | FU301 Fuse (T400mA) | AEK-407 |
| Δ | AC power cord | ADG-094 |
| | L1 Loop antenna assembly | ATB-113 |

SWITCH Assembly

| Mark | Symbol & Description | Part No. |
|------|--------------------------|----------|
| Δ★★ | S301 Push switch (POWER) | ASG-413 |

DISPLAY Assembly

| Mark | Symbol & Description | Part No. |
|------|----------------------|----------|
| ★★ | Q501, Q502 | RN1203 |
| ★ | D502 | AEL1009 |
| ★ | D501, D503, D504 | AEL1015 |

SWITCHES

| Mark | Symbol & Description | Part No. |
|------|---|----------|
| ★★ | S501-S519 Tact switch (STATION CALL, MEMORY, FM MONO, CCTS, BAND, SIGNAL LEVEL, TUNING) | ASG-711 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|-------------|
| | R501, R502 | RD1/8PM332J |

OTHERS

| Mark | Symbol & Description | Part No. |
|------|---------------------------------|----------|
| ★ | V501 Fluorescent indicator tube | AAV-023 |

TUNER Assembly (AWZ1427)

| Mark | Symbol & Description | Part No. |
|------|----------------------|----------|
|------|----------------------|----------|

| | | |
|-----|-------|-----------|
| ★★ | IC102 | AN7470P |
| ★★ | IC201 | LA1247 |
| ★★ | IC402 | LC7217 |
| ★★ | IC403 | M5223P |
| Δ★★ | IC301 | NJM78M13A |

| | | |
|----|-----------------------|----------|
| ★★ | IC101 | PA3001-A |
| ★★ | IC401 | PD5057-B |
| ★★ | Q109, Q407, Q411-Q414 | RN1203 |
| ★★ | Q403, Q404 | RN2203 |
| ★★ | Q408 | 2SA1048 |

| | | |
|----|------------------------------------|------------|
| ★★ | Q401, Q402 | 2SC1740SLN |
| ★★ | Q107, Q108, Q111, Q406, Q409, Q410 | 2SC2458 |
| ★★ | Q103 | 2SC2668 |
| ★★ | Q301 | 2SD880 |

| | | |
|----|-----------|-----------|
| ★★ | Q110 | 2SJ103 |
| ★ | D201 | KV0714-2 |
| ★ | D406 | RD2.4ESB2 |
| ★ | D305 | RD6.2ESB3 |
| Δ★ | D301-D304 | S5566 |

| | | |
|---|--|--------|
| ★ | D104-D108, D209, D306-D308, D402-D405, D407-D410 | 1SS131 |
|---|--|--------|

COILS, FILTERS AND TRANSFORMERS

| Mark | Symbol & Description | Part No. |
|------|---|----------|
| | L201 AM OSC coil | ATB-100 |
| | L109 FM detector coil | ATE-074 |
| Δ | L301 Line filter (1mH) | ATF-163 |
| | L107, L108, L401, L402 Axial inductor (2.2μH) | LAU2R2M |
| | L112, L113 Axial inductor (220μH) | LAU221K |
| | F102 FM ceramic filter | ATF-107 |
| | F101 FM ceramic filter | ATF-119 |
| | F103 Beat eliminate filter | ATF-146 |
| | F201 AM ceramic filter | ATF-208 |
| | T201 AM antenna transformer | ATB-095 |
| Δ★ | T301 Power transformer | ATT1021 |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|--|-------------|
| | TC201, TC202 Trimmer | ACM-015 |
| | C404 (22000μF/5.5V) | ACH1023 |
| | C156 | CCDCH040C50 |
| | C204 | CCDCH150J50 |
| | C405, C406 | CCDCH270J50 |
| | C122 | CCDSL221J50 |
| | C402, C403 | CCDSL270J50 |
| | C146, C408 | CEASR22M50 |
| | C119, C123, C131, C410, C413 | CEAS010M50 |
| | C147 | CEAS1R5M50 |
| | C133, C218 | CEAS100M50 |
| | C304 | CEAS101M10 |
| | C226 | CEAS101M16 |
| | C150, C151 | CEAS2R2M50 |
| | C125 | CEAS220M25 |
| | C142, C305 | CEAS221M16 |
| | C302 | CEAS222M35 |
| | C148, C401 | CEAS3R3M50 |
| | C130, C141, C211-C213 | CEAS4R7M50 |
| | C303 | CEAS470M10 |
| | C143, C214 | CEAS470M16 |
| | C144, C145, C216, C221 | CKDYB102K50 |
| | C152, C153 | CKDYB182K50 |
| | C134 | CKDYB681K50 |
| | C118, C154, C157, C201, C219, C224, C407 | CKDYF103Z50 |
| | C225 | CKDYF222Z50 |
| | C120, C121, C124, C126, C128, C129, C132, C209, C210, C215, C217, C222, C307, C409, C411, C412 | CKDYF223Z50 |
| | C155, C220, C223, C306 | CKDYF473Z50 |
| | C127 | CKDYX473M25 |
| | C205 | CQSA431J50 |
| | C149 | CQSA471J50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|-----------------------------|--------------|
| ★ | VR101 Semi-fixed (4.7kΩ) | VRTB6VS472 |
| | R466 Resistor array (22k×4) | RA4S223J |
| Δ | R216, R218 | RD1/4PM□□□J |
| Δ | R302 | RFA1/4PL390J |
| Δ | R301 | RS1PMF182J |
| | Other resistors | RD1/8PM□□□J |

OTHERS

| Mark | Symbol & Description | Part No. |
|------|-----------------------------------|----------|
| ★ | X402 Crystal resonator (7.20MHz) | ASS-025 |
| ★ | X401 Ceramic resonator (4.000MHz) | ASS-030 |
| ★ | X202 Ceramic resonator (450.0kHz) | ATF-125 |
| | Terminal (ANTENNA) | AKA1004 |
| | 2P Pin jack | AKB-119 |
| | FE assembly (FTZ) | AWB1003 |

FE Assembly (FTZ)(AWB1003)

NOTE; This FE Assembly (FTZ)(AWB1003) is part of
TUNER Assembly (AWZ1427).

SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|----------|
| ★★ | Q702 | 2SC2668 |
| ★★ | Q705 | 2SC2786 |
| ★★ | Q701, Q703, Q704 | 2SK241 |
| ★ | D701-D704 | 1SV147 |

COILS AND TRANSFORMERS

| Mark | Symbol & Description | Part No. |
|------|------------------------------|----------|
| | L703 FM RF coil | ATC-247 |
| | L701 FM coil | ATC1001 |
| | L704 FM coil | ATC1003 |
| | L702 FM coil | ATC1010 |
| | L705, L706 Inductor (2.2μH) | ATH-049 |
| | T701 FM RF transformer | ATC-194 |
| | T702 FM matching transformer | ATE-063 |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|------------------------|-------------|
| | TC701 | ACM-014 |
| | C715 | CCDCH080D50 |
| | C713 | CCDCH150J50 |
| | C714 | CCDCH330J50 |
| | C701 | CCDRH100D50 |
| | C705 | CCDRH330J50 |
| | C702, C704, C706 | CCDRH390J50 |
| | C710 | CCDSL010C50 |
| | C708, C709 | CCDSL020C50 |
| | C717 | CCDSL050C50 |
| | C711 | CCDSL101J50 |
| | C716 | CCDTH180J50 |
| | C703, C712, C718, C719 | CKDYF103Z50 |
| | C707 | CKDYF223Z50 |

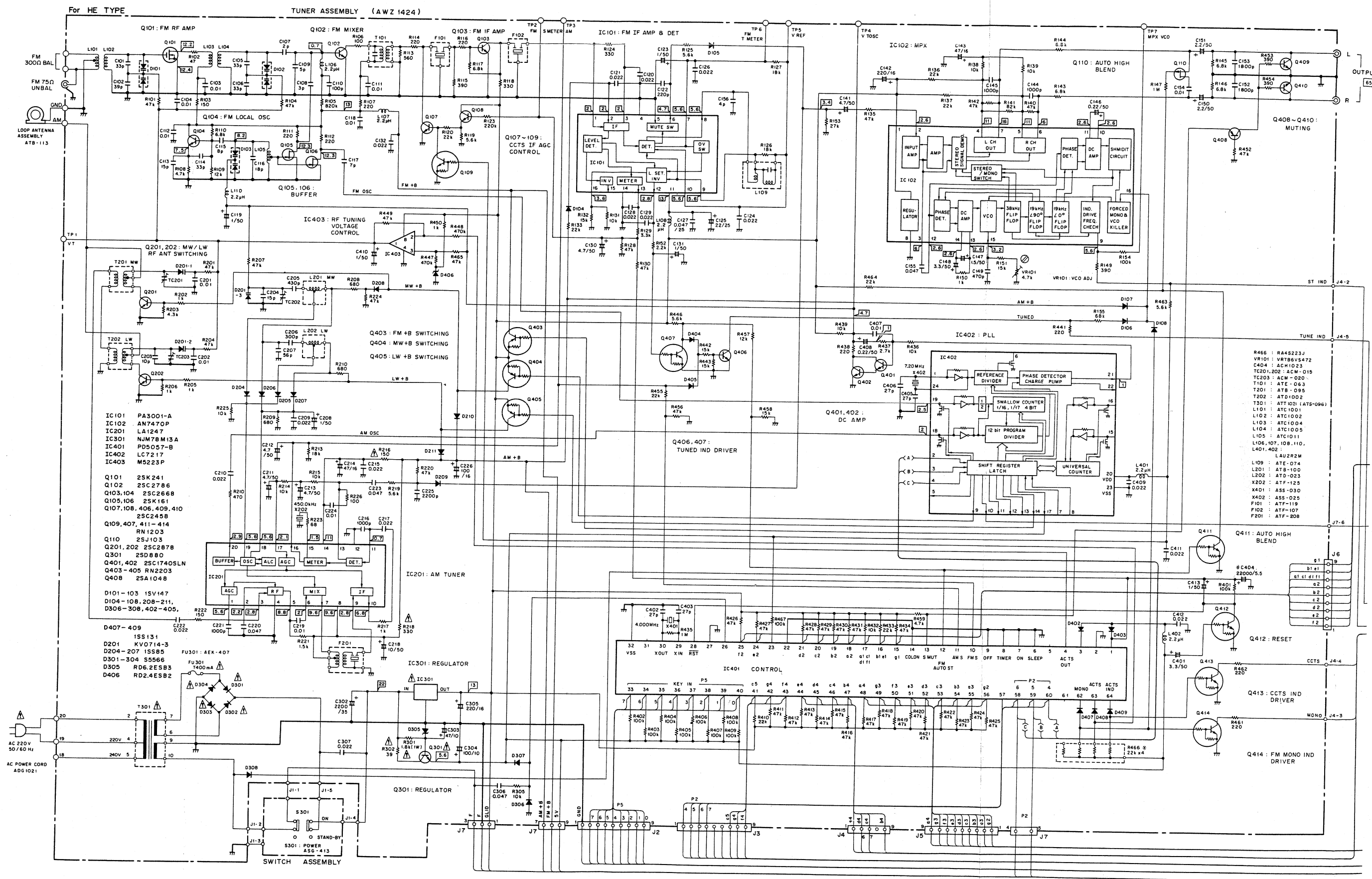
RESISTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|-------------|
| | All resistors | RD1/8PM□□□J |

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D



5.3 ELECTRICAL PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks $\star\star$ and \star .
- $\star\star$ GENERALLY MOVES FASTER THAN \star
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

| | | | |
|--------------|------------------|----------|-------------------------------------|
| 560 Ω | 56 $\times 10^1$ | 561..... | RD1/4PS $\square \square \square J$ |
| 47k Ω | 47 $\times 10^3$ | 473..... | RD1/4PS $\square \square \square J$ |
| 0.5 Ω | 0R5..... | | RN2H $\square \square \square K$ |
| 1 Ω | 010..... | | RS1P $\square \square \square K$ |

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

| | | | |
|----------------|-------------------|-----------|-------------------------------------|
| 5.62k Ω | 562 $\times 10^1$ | 5621..... | RN1/4SR $\square \square \square F$ |
|----------------|-------------------|-----------|-------------------------------------|

Note: This electrical parts list is common used to F-551L/HE and HB types.

Miscellaneous Parts

| Mark | Symbol & Description | Part No. |
|--------------------|--------------------------|----------|
| | SWITCH assembly | |
| | DISPLAY assembly | |
| | TUNER assembly | AWZ1424 |
| $\Delta\star\star$ | FU301 Fuse (T400mA) | AEK-407 |
| Δ | AC power cord (HE type) | ADG1021 |
| Δ | AC power cord (HB type) | ADG-063 |
| | L1 Loop antenna assembly | ATB-113 |

SWITCH Assembly

| Mark | Symbol & Description | Part No. |
|--------------------|--------------------------|----------|
| $\Delta\star\star$ | S301 Push switch (POWER) | ASG-413 |

DISPLAY Assembly
SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|--------------|----------------------|----------|
| $\star\star$ | Q501, Q502 | RN1203 |
| \star | D502 | AEL1009 |
| \star | D501, D503, D504 | AEL1015 |

SWITCHES

| Mark | Symbol & Description | Part No. |
|--------------|---|----------|
| $\star\star$ | S501-S519 Tact switch (STATION CALL, MEMORY, FM MONO, CCTS, BAND, SIGNAL LEVEL, TUNING) | ASG-711 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|-------------|
| | R501, R502 | RD1/8PM332J |

OTHERS

| Mark | Symbol & Description | Part No. |
|---------|---------------------------------|----------|
| \star | V501 Fluorescent indicator tube | AAV-023 |

TUNER Assembly(AWZ1424)

| Mark | Symbol & Description | Part No. |
|--------------------|----------------------|-----------|
| $\star\star$ | IC102 | AN7470P |
| $\star\star$ | IC201 | LA1247 |
| $\star\star$ | IC402 | LC7217 |
| $\star\star$ | IC403 | M5223P |
| $\Delta\star\star$ | IC301 | NJM78M13A |

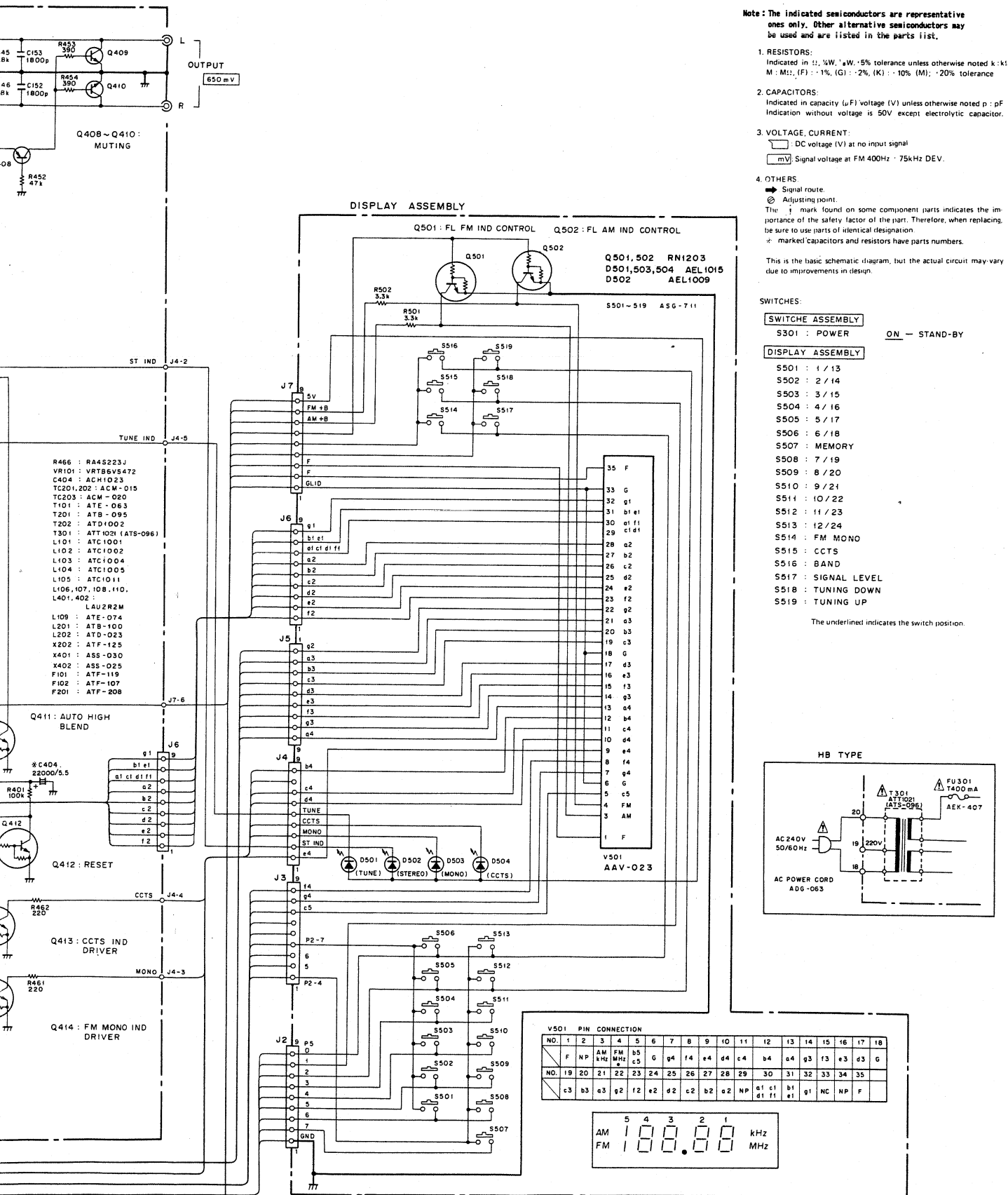
| | | |
|--------------|-----------------------|----------|
| $\star\star$ | IC101 | PA3001-A |
| $\star\star$ | IC401 | PD5057-B |
| $\star\star$ | Q109, Q407, Q411-Q414 | RN1203 |
| $\star\star$ | Q403-Q405 | RN2203 |
| $\star\star$ | Q408 | 2SA1048 |

| | | |
|--------------|------------------------------|------------|
| $\star\star$ | Q401, Q402 | 2SC1740SLN |
| $\star\star$ | Q107, Q108, Q406, Q409, Q410 | 2SC2458 |
| $\star\star$ | Q103, Q104 | 2SC2668 |
| $\star\star$ | Q102 | 2SC2786 |
| $\star\star$ | Q201, Q202 | 2SC2878 |

| | | |
|--------------|------------|----------|
| $\star\star$ | Q301 | 2SD880 |
| $\star\star$ | Q110 | 2SJ103 |
| $\star\star$ | Q105, Q106 | 2SK161 |
| $\star\star$ | Q101 | 2SK241 |
| \star | D201 | KV0714-3 |

| | | |
|---------------|---|-----------|
| \star | D406 | RD2.4ESB2 |
| \star | D305 | RD6.2ESB3 |
| $\Delta\star$ | D301-D304 | S5566 |
| \star | D104-D108, D208-D211, D306-D308, D402-D405, D407-D409 | 1SS131 |

| | | |
|---------|-----------|--------|
| \star | D204-D207 | 1SS85 |
| \star | D101-D103 | 1SV147 |



COILS, FILTERS AND TRANSFORMERS

| Mark | Symbol & Description | Part No. |
|------|---|----------------------|
| | L201 AM OSC coil | ATB-100 |
| | L101 FM coil | ATC1001 |
| | L102 FM coil | ATC1002 |
| | L103 FM coil | ATC1004 |
| | L104 FM coil | ATC1005 |
| | L105 FM coil | ATC1011 |
| | L202 LW OSC coil | ATD-023 |
| | L109 FM detector coil | ATE-074 |
| | L106-L108, L110, L401, L402 Axial inductor (2.2 μ H) | LAU2R2M |
| | F102 FM ceramic filter | ATF-107 |
| | F101 FM ceramic filter | ATF-119 |
| | F201 AM ceramic filter | ATF-208 |
| | T201 AM antenna transformer | ATB-095 |
| | T202 LW antenna transformer | ATD1002 |
| | T101 FM matching transformer | ATE-063 |
| ▲ ★ | T301 Power transformer | ATT1021 (ATS-096) |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|---------------------------------------|-------------|
| | TC201, TC202 Trimmer | ACM-015 |
| | TC203 Trimmer | ACM-020 |
| | C404 (22000 μ F/5.5V) | ACH1023 |
| | C156 | CCDCH040C50 |
| | C115 | CCDCH080D50 |
| | C203 | CCDCH100D50 |
| | C113, C204 | CCDCH150J50 |
| | C405, C406 | CCDCH270J50 |
| | C114 | CCDCH330J50 |
| | C207 | CCDCH560J50 |
| | C101, C105, C106 | CCDRH330J50 |
| | C102 | CCDRH390J50 |
| | C107 | CCDSL020C50 |
| | C108 | CCDSL030C50 |
| | C109 | CCDSL050C50 |
| | C117 | CCDSL070D50 |
| | C110 | CCDSL101J50 |
| | C122 | CCDSL221J50 |
| | C402, C403 | CCDSL270J50 |
| | C116 | CCDTH180J50 |
| | C146, C408 | CEASR22M50 |
| | C119, C123, C131, C208, C410, C413 | CEAS010M50 |
| | C147 | CEAS1R5M50 |
| | C218 | CEAS100M50 |
| | C304 | CEAS101M10 |
| | C226 | CEAS101M16 |
| | C150, C151 | CEAS2R2M50 |
| | C125 | CEAS220M25 |
| | C142, C305 | CEAS221M16 |

| Mark | Symbol & Description | Part No. |
|------|---|-------------|
| | C302 | CEAS222M35 |
| | C148, C401 | CEAS3R3M50 |
| | C130, C141, C211-C213 | CEAS4R7M50 |
| | C303 | CEAS470M10 |
| | C143, C214 | CEAS470M16 |
| | C144, C145, C216, C221 | CKDYB102K50 |
| | C152, C153 | CKDYB182K50 |
| | C103, C104, C111, C112, C118, C154, C201, C202, C219, C224, C407 | CKDYF103Z50 |
| | C225 | CKDYF222Z50 |
| | C120, C121, C124, C126, C128, C129, C132, C209, C210, C215, C217, C222, C307, C409, C411, C412 | CKDYF223Z50 |
| | C155, C220, C223, C306 | CKDYF473Z50 |
| | C127 | CKDYX473M25 |
| | C206 | CQSA301J50 |
| | C205 | CQSA431J50 |
| | C149 | CQSA471J50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|--------------------------------------|--------------|
| ★ | VR101 Semi-fixed (4.7k Ω) | VRTB6VSA72 |
| | R466 Resistor array (22k \times 4) | RA4S223J |
| ▲ | R216, R218 | RD1/4PM□□□J |
| ▲ | R302 | RFA1/4PL390J |
| ▲ | R301 | RS1PMF182J |
| | Other rsistors | RD1/8PM□□□J |

OTHERS

| Mark | Symbol & Description | Part No. |
|------|--------------------------------------|----------|
| ★ | X402 Crystal resonator (7.20MHz) | ASS-025 |
| ★ | X401 Ceramic resonator (4.000MHz) | ASS-030 |
| ★ | X202 Ceramic resonator (450.0kHz) | ATF-125 |
| | 4P Termianl (ANTENNA) | AKA1002 |
| | 2P Pin jack | AKB-119 |

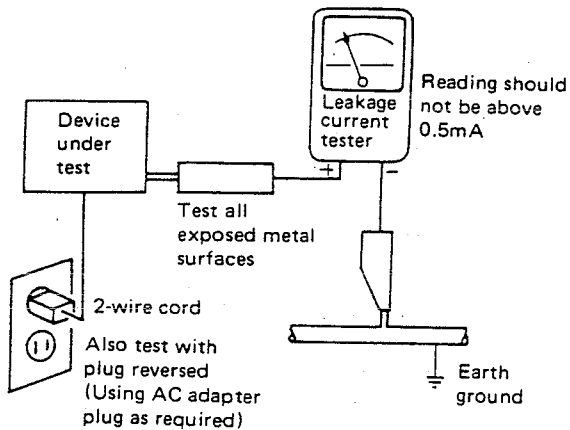
6. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.